WHAT IS CLAIMED IS:

1. A visceral fat determining device comprising:

input means for inputting personal data including an abdominal girth W_L which is a circumferential length of a trunk of a patient and a gluteal girth H_L which is a circumferential length of buttocks of the patient;

a data processing unit for storing the personal data and for calculating quantitative information on abdominal visceral fat of the patient based on the personal data; and

a display device for displaying the personal data and a result of the calculation performed by the data processing unit;

wherein the data processing unit calculates quantitative information on the abdominal visceral fat of the patient based on WHR which is a ratio (W_L/H_L) of the abdominal girth W_L to the gluteal girth H_L.

2. The visceral fat determining device according to claim 1, wherein the quantitative information on the abdominal visceral fat is an amount of the abdominal visceral fat.

3. The visceral fat determining device according to claim 1 or 2, further comprising body fat ratio measuring means for measuring a bioelectrical impedance Z of the patient via electrodes contacted to end portions of the patient and for calculating a body fat ratio FAT of the patient based on the measured bioelectrical impedance Z and the inputted personal data or a portion thereof,

wherein the body fat ratio FAT obtained by the body fat ratio measuring means is displayed on the display device.

4. A visceral fat determining device comprising:

input means for inputting personal data including an

abdominal girth WL which is a circumferential length of a trunk (waist size) of a patient and a gluteal girth HL which is a circumferential length of buttocks (hip size) of the patient;

a data processing unit for storing the personal data and for calculating an estimated value of an abdominal visceral fat cross sectional area VA of the patient based on the personal data; and

a display device for displaying the personal data and a result of the calculation performed by the data processing unit;

wherein the data processing unit stores a first regression coefficient of WHR and a first regression constant, WHR being a ratio (WL/HL) of an abdominal girth WL to an gluteal girth HL, the regression coefficient and the regression constant being obtained from statistical processing based on actual measurement values of the abdominal visceral fat cross sectional area VA measured in abdominal tomography of human bodies of random samples and respective WHR values of the human samples, the data processing unit calculating the estimated value of abdominal visceral fat cross sectional area VA of the patient based on a WHR value of the patient, the first regression constant of said WHR and the first regression coefficient.

5. A visceral fat determining device comprising:

input means for inputting personal data including an abdominal girth W_L which is a circumferential length of a trunk of a patient, a gluteal girth H_L which is a circumferential length of buttocks of the patient, height and weight of the patient;

a data processing unit for storing the personal data

and for calculating an estimated value of an abdominal visceral fat cross sectional area VA of the patient based on the personal data; and

a display device for displaying the personal data and a result of the calculation performed by the data processing unit;

wherein the data processing unit stores a second regression coefficient of WHR, WHR being a ratio (W_L/H_L) of an abdominal girth W_L to an gluteal girth H_L, and a first regression coefficient of BMI, BMI being an index of corpulence, and a second regression constant, the regression coefficients and the regression constant being obtained from statistical processing based on actual measurement values of the abdominal visceral fat cross sectional area VA measured in abdominal tomography of human bodies of random samples and respective WHR values and BMI values of the human samples, the data processing unit calculating the estimated value of abdominal visceral fat cross sectional area VA of the patient based on a WHR value and a BMI value of the patient, the second regression coefficient of said WHR, the first regression coefficient of said BMI and the second regression constant.

6. A visceral fat determining device comprising:

input means for inputting personal data including an abdominal girth W_L which is a circumferential length of a trunk of a patient, a gluteal girth H_L which is a circumferential length of buttocks of the patient, height, weight, sex and age of the patient;

a data processing unit for storing the personal data and for calculating an estimated value of an abdominal visceral fat cross sectional area VA of the patient based on the personal

43

data;

a display device for displaying the personal data and a result of the calculation performed by the data processing unit; and

body fat ratio measuring means for measuring a bioelectrical impedance Z of the patient via electrodes contacted to end portions of the patient and for calculating a body fat ratio FAT of the patient based on the measured bioelectrical impedance Z and the inputted personal data or a portion thereof;

wherein the data processing unit stores a third regression coefficient of WHR, WHR being a ratio (W_L/H_L) of an abdominal girth W_L to an gluteal girth H_L, a first regression coefficient of body fat ratio FAT and a third regression constant, the regression coefficients and the regression constant being obtained from statistical processing based on actual measurement values of the abdominal visceral fat cross sectional area VA measured in abdominal tomography of human bodies of random samples and respective WHR values and FAT values of the human samples, the data processing unit calculating the estimated value of abdominal visceral fat cross sectional area VA of the patient based on a WHR value of the patient, a FAT value of the patient measured by the body fat ratio measuring means, the third regression coefficient of said WHR, the first regression coefficient of said FAT and the third regression constant.

7. A visceral fat determining device comprising:

input means for inputting personal data including an abdominal girth W_L which is a circumferential length of a trunk of a patient, a gluteal girth H_L which is a circumferential

44

length of buttocks of the patient, height, weight and an abdominal subcutaneous fat thickness s of the patient;

a data processing unit capable of storing the personal data and performing calculation of an estimated value of an abdominal visceral fat cross sectional area VA of the patient based on the personal data; and

a display device for displaying the personal data and a result of the calculation performed by the data processing unit;

wherein the data processing unit stores a fourth regression coefficient of WHR, WHR being a ratio (W_L/H_L) of an abdominal girth W_L to an gluteal girth H_L, a second regression coefficient of BMI, BMI being an index of corpulence, a first regression coefficient of the abdominal subcutaneous fat thickness s and a fourth regression constant, the regression coefficients and the regression constant being obtained from statistical processing of correlation among actual measurement values of the abdominal visceral fat cross sectional area VA measured in abdominal tomography of human bodies of random samples and respective WHR values, BMI values and abdominal subcutaneous fat thickness values s of the human samples, the data processing unit calculating the estimated value of abdominal visceral fat cross sectional area VA of the patient based on a WHR value, a BMI value and an abdominal subcutaneous fat thickness value s of the patient, the fourth regression coefficient of said WHR, the second regression coefficient of said BMI, the first regression coefficient of said abdominal subcutaneous fat thickness value s and the second regression constant.

8. The visceral fat determining device according to claim

45

7, wherein the data processing unit further calculates an abdominal subcutaneous fat cross sectional area SA based on the abdominal subcutaneous fat thickness s and the abdominal girth WL, of the patient.

5   9. The visceral fat determining device according to claim 8, wherein the data processing unit further calculates a ratio VSR between the estimated value of abdominal visceral fat cross sectional area VA and the abdominal subcutaneous fat cross sectional area SA, of the patient.

10   10. The visceral fat determining device according to claim 8, wherein the data processing unit further calculates a total abdominal fat cross sectional area WA based on the estimated value of abdominal visceral fat cross sectional area VA and the abdominal subcutaneous fat cross sectional area SA, of the patient.

15   SA, of the patient.

11. A visceral fat determining device comprising:

input means for inputting personal data including an abdominal girth W_L which is a circumferential length of a trunk of a patient, a gluteal girth H_L which is a circumferential length of buttocks of the patient, height, weight, sex, age

20   and an abdominal subcutaneous fat thickness s of the patient;

a data processing unit for storing the personal data and for calculating an estimated value of an abdominal visceral fat cross sectional area VA of the patient based on the personal

25   data;

a display device for displaying the personal data and a result of the calculation performed by the data processing unit; and

body fat ratio measuring means for measuring a

30   bioelectrical impedance Z of the patient via electrodes

46

contacted to end portions of the patient and for calculating a body fat ratio FAT of the patient based on the measured bioelectrical impedance Z and the inputted personal data or a portion thereof;

5   wherein the data processing unit stores a fifth regression coefficient of WHR, WHR being a ratio (W_L/H_L) of an abdominal girth W_L to an gluteal girth H_L, a second regression coefficient of body fat ratio FAT, a second regression coefficient of the abdominal subcutaneous fat thickness s and

10   a fifth regression constant, the regression coefficients and the regression constant being obtained from statistical processing of correlation among actual measurement values of the abdominal visceral fat cross sectional area VA measured in abdominal tomography of human bodies of random samples,

15   and respective WHR values, FAT values and abdominal subcutaneous fat thickness values s of the human samples, the data processing unit calculating the estimated value of abdominal visceral fat cross sectional area VA of the patient based on a WHR value of the patient, a FAT value and an abdominal

20   subcutaneous fat thickness value s measured by the body fat measuring means, the fifth regression coefficient of said WHR, the second regression coefficient of said FAT, the second regression coefficient of said abdominal subcutaneous fat thickness s, and the fifth regression constant.

25   12. The visceral fat determining device according to claim 11, wherein the data processing unit further calculates an abdominal subcutaneous fat cross sectional area SA based on the abdominal subcutaneous fat thickness s and the abdominal girth W_L, of the patient.

30   13. The visceral fat determining device according to

47

claim 12, wherein the data processing unit further calculates a ratio VSR between the estimated value of abdominal visceral fat cross sectional area VA and the abdominal subcutaneous fat cross sectional area SA, of the patient.

5   14. The visceral fat determining device according to claim 12, wherein the data processing unit further calculates a total abdominal fat cross sectional area WA based on the estimated value of abdominal visceral fat cross sectional area VA and the abdominal subcutaneous fat cross sectional area

10   SA, of the patient.

15 The visceral fat determining device according to any one of claims 4, 5, 7, 8, 9 and 10, further comprising body fat ratio measuring means for measuring a bioelectrical impedance Z of the patient via electrodes contacted to end

15   portions of the patient and for calculating a body fat ratio FAT of the patient based on the measured bioelectrical impedance Z and the inputted personal data or a portion thereof,

wherein the body fat ratio FAT obtained by the body fat ratio measuring means is displayed on the display device.

20   16. A visceral fat determining device comprising:

input means for inputting personal data including an abdominal girth W_L which is a circumferential length of a trunk of a patient, and a gluteal girth H_L which is a circumferential length of buttocks of the patient;

25   a data processing unit for storing the personal data and for calculating an estimated value of an abdominal visceral fat cross sectional area VA of the patient based on the personal data;

a display device for displaying the personal data and

30   a result of the calculation performed by the data processing

48

unit; and

impedance measuring means for measuring a bioelectrical impedance Z of the patient via electrodes contacted to end portions of the patient and for calculation on the measured bioelectrical impedance Z;

wherein the data processing unit stores a sixth regression coefficient of WHR, WHR being a ratio (W_L/H_L) of an abdominal girth W_L to an gluteal girth H_L, a first regression coefficient of the bioelectrical impedance Z and a sixth regression constant, the regression coefficients and the regression constant being obtained from statistical processing of correlation among actual measurement values of the abdominal visceral fat cross sectional area VA measured in abdominal tomography of human bodies of random samples, and respective WHR values and bioelectrical impedance values Z of the human samples, the data processing unit calculating the estimated value of abdominal visceral fat cross sectional area VA of the patient based on a WHR value of the patient, a bioelectrical impedance value Z of the patient measured by the body fat ratio measuring means, the sixth regression coefficient of said WHR, the first regression coefficient of said bioelectrical impedance Z, and the sixth regression constant.

17. A visceral fat determining device comprising:

input means for inputting personal data including an abdominal girth W_L which is a circumferential length of a trunk of a patient, and a gluteal girth H_L which is a circumferential length of buttocks of the patient;

a data processing unit for storing the personal data and for calculating an estimated value of an abdominal visceral

49

fat cross sectional area VA of the patient based on the personal data;

a display device for displaying the personal data and a result of the calculation performed by the data processing unit; and

impedance measuring means for measuring a bioelectrical impedance Z of the patient via electrodes contacted to end portions of the patient and for calculation on the measured bioelectrical impedance Z;

wherein the data processing unit stores a seventh regression coefficient of WHR, and a first regression coefficient of T_L^2/Z and a seventh regression constant, WHR being a ratio (W_L/H_L) of an abdominal girth W_L to an gluteal girth H_L, T_L^2/Z being obtained by dividing a squared height of a human by his bioelectrical impedance, the regression coefficients and the regression constant being obtained from statistical processing of correlation among actual measurement values of the abdominal visceral fat cross sectional area VA measured in abdominal tomography of human bodies of random samples, and respective WHR values and T_L^2/Z values of the human samples, the data processing unit calculating the estimated value of abdominal visceral fat cross sectional area VA of the patient based on a WHR value of the patient, a bioelectrical impedance value Z of the patient measured by the body fat ratio measuring means, a height value T_L inputted from the input means, the seventh regression coefficient of said WHR, the first regression coefficient of said T_L^2/Z, and the seventh regression constant.

18. The visceral fat determining device according to any one of claims 4 to 15, wherein the calculation of the

50

estimated value of abdominal visceral fat cross sectional area VA is performed with addition of a correction term by age and/or a correction term by sex, of the patient.

19. The visceral fat determining device according to any one of claims 4 to 18, wherein a plurality of ranking levels defined by a plurality of standard values are provided in advance for the abdominal visceral fat cross sectional area VA, the estimated value of the abdominal visceral fat cross sectional area VA given by the calculation being displayed on the display device in conformity with the ranking levels.

20. The visceral fat determining device according to any one of claims 1 to 19, wherein the abdominal girth W_L is provided by an abdominal girth at the fourth lumbar vertebrae of the patient, and the gluteal girth H_L is provided by a girth measured generally at the thickest portion on the buttocks of the patient.

21. The visceral fat determining device according to any one of claims 1 to 20, further comprising size measuring means for measuring the abdominal girth W_L and the gluteal girth H_L.

22. The visceral fat determining device according to claim 21, wherein the abdominal girth W_L and the gluteal girth H_L measured by the size measuring means are inputted to the data processing unit.